REMARKS

In response to the Office Action mailed March 4, 2004, the Applicant respectfully requests reconsideration.

By this Amendment, Applicant adds claims 60 and 61, support for which can be found in the Specification, for example, on page 19, line 35-page 20, line 2.

1. Claims 38-48, 50, 51, 58 and 60 Patentably Distinguish over Cocke and Bruckert

Claims 38-48, 50, 51 and 58 stand rejected under 35 U.S.C. §103 as purportedly being unpatentable over U.S. Patent No. 3,577,189 (Cocke) in view of U.S. Patent No. 4,742,451 (Bruckert). Applicant respectfully traverses this rejection.

1.1 Discussion of Cocke

Cocke is directed to an apparatus and method in a digital computer that allows improved program branching by anticipating braches, reducing the number of branches and reducing branch delays. (Col. 1, lines 10-14). As conceded in the Office Action (page 2, first full paragraph), Cocke does not teach instruction fetch circuitry having first and second instruction fetchers to fetch from first and second strings in parallel, nor operation of a second instruction fetcher to fetch a new instruction in parallel with a first instruction fetcher fetching a subsequent instruction. In fact, Cocke does not teach or suggest the use of instruction fetch circuitry at all.

1.2 Discussion of Bruckert

Bruckert describes a digital processing system that processes prefetched instructions including a conditional branch instruction. (Abstract). When the fetch unit fetches a conditional branch instruction, it may continue to prefetch "branch not taken" instructions using the instruction fetch portion. (Abstract). More particularly, the fetch unit is divided into two sections, or "ports", one of which fetches instructions from the memory. (Col. 2, line 49-51; Fig. 2A). The second section fetches operands from the memory. (Col. 2, lines 51-52; Fig. 2A).

In response to decoding a conditional branch instruction, the fetch unit of Bruckert determines the address of the "branch taken" instruction stream, and uses the operand fetch portion to begin prefetching instructions from the "branch taken" instruction stream. (Col. 7, lines 28-33; Fig. 2A; emphasis added).

1.3 Claim 38 Patentably Distinguishes over Cocke In View of Bruckert

The combination of Cocke and Bruckert is improper because one of skill in the art would not have been motivated to modify the system of Cocke by adding instruction fetch circuitry as shown in Bruckert.

Even if this combination were proper, any resulting combination would not teach or suggest all of the limitations recited in claim 38. Specifically, no resulting combination would teach or suggest a computer system comprising, *inter alia*, storage circuitry holding a first string of instructions including a set branch instruction indicating a target location within the storage circuitry at which a new instruction, not included in the first string, is stored, and instruction fetch circuitry including a first instruction fetcher and a second instruction fetcher, wherein the second instruction fetcher is operative, *responsive to execution of said set branch instruction*, to fetch the new instruction from the location indicated by the set branch instruction, in parallel to the first instruction fetcher fetching a subsequent instruction of the first string. As noted above, Bruckert indicates that instruction words begin being prefetched from a "branch taken" instruction stream *in response to decoding* a conditional branch instruction. Further, Cocke does not teach or suggest the use of instruction fetch circuitry at all. Accordingly, even if these references were combined, no resulting combination would teach or suggest an instruction fetcher, responsive to *execution* of a set branch instruction, to fetch a new instruction from a location indicated by the said branch instruction, as recited in claim 38. Rather, at best, such combination would indicate to prefetch "branch taken" instruction *in response to decoding* a branch instruction, as opposed to prefetching *in response to executing* a branch instruction.

In view of the foregoing, Applicant respectfully requests that the rejection of claim 38 under §103 as purportedly being unpatentable over Cocke in view of Bruckert be withdrawn. Claims 39-48, 50, 51, 58 and 60 depend from claim 38 and are patentable for at least the same reasons. Accordingly, Applicant requests that the rejections of claims 39-48, 50, 51 and 58 be withdrawn.

2. Claims 52-57 and 61 Patentably Distinguish Over Cocke In View of Bruckert

Claims 52-57 stand rejected under 35 U.S.C. §103 as purportedly being unpatentable over Cocke in view of Bruckert. Applicant respectfully traverses this rejection.

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As set forth above, with respect to claim 38, the combination of Cocke and Bruckert is improper. Further, as should be clear from the above discussion, even if Cocke and Bruckert were combined, no resulting combination would teach or suggest all of the limitations recited in claim 52. Specifically, no resulting combination would teach or suggest a method of operating a computer having storage circuitry holding a first instruction string that includes a set branch instruction indicating a target location with the storage circuitry at which a new instruction, not included in the first string, is stored, the method comprising, *inter alia, in response to executing* said set branch instruction, fetching the new instruction from said storage circuitry in parallel to fetching a subsequent instruction from the first instruction string, as recited in claim 52.

In view of the foregoing, Applicant respectfully requests that the rejection of claim 52 under §103 as being unpatentable over Cocke in view of Bruckert be withdrawn. Claims 53-57 and 61 depend from claim 52 and are patentable for at least the same reasons. Accordingly, Applicant respectfully requests that the rejections of claims 53-57 be withdrawn.

3. Claim 59 Patentably Distinguishes over Cocke In View of Bruckert

Claim 59 stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over Cocke in view of Bruckert. Applicant respectfully traverses this rejection.

As discussed above, the combination of Cocke and Bruckert is improper. Further, as should be clear from the discussion above with respect to claim 38, even if Cocke and Bruckert were combined, no resulting combination would teach or suggest all of the limitations of claim 59. Specifically, no resulting combination would teach or suggest a computer system comprising, *inter alia*, storage circuitry holding a first string of instructions including a set branch instruction indicating a target location within the storage circuitry at which a new instruction, not included in the first string, is stored, the first string further including a subsequent instruction, and means for fetching the subsequent instruction and the new instruction from the storage circuitry in parallel *in response to execution* of the set branch instruction, as recited in claim 59.

In view of the foregoing, Applicant respectfully request that the rejection of claim 59 under §103 as being unpatentable over Cocke in view of Bruckert be withdrawn.
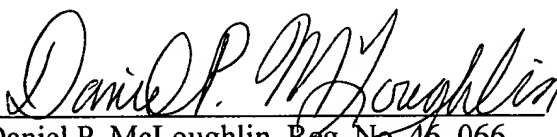
CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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Docket No.: S1022.80655US00US00
Date: June 4, 2004
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